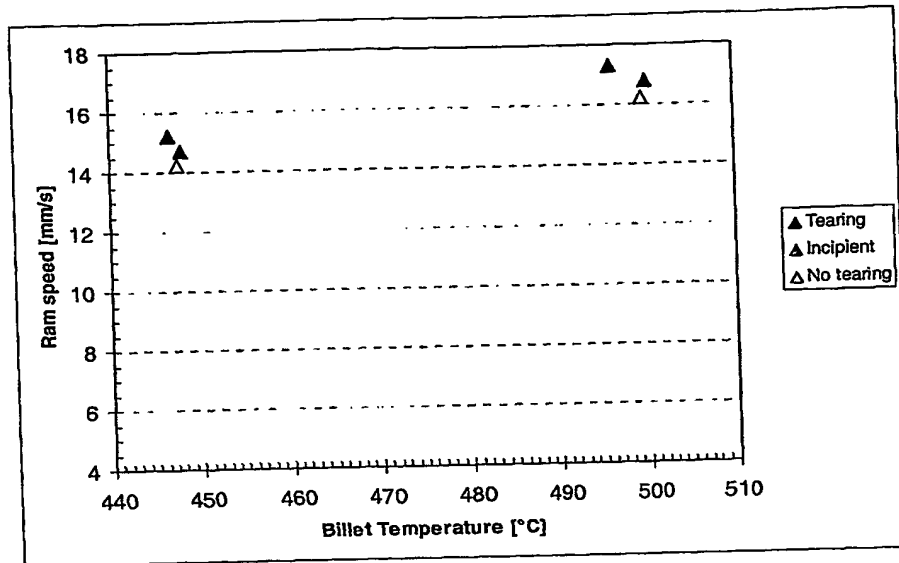
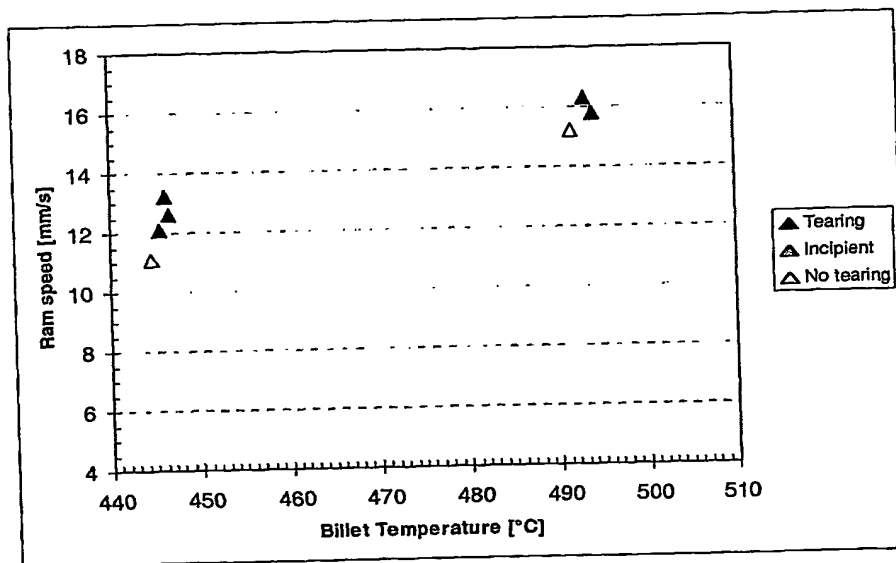


Figure 1: Dispersoid density in 6060 types of alloys with constant Mg and Si and Fe contents versus the Mn content of the alloys.

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a) Alloy 1: 0.03wt% Mn



b) Alloy 2: 0.006 wt% Mn

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Figure 2: Extrusion ram speed versus billet temperature for two alloys with equal Mg, Si and Fe contents and different Mn contents. Dark triangles represent profiles with tearing and open triangles represent good profiles.

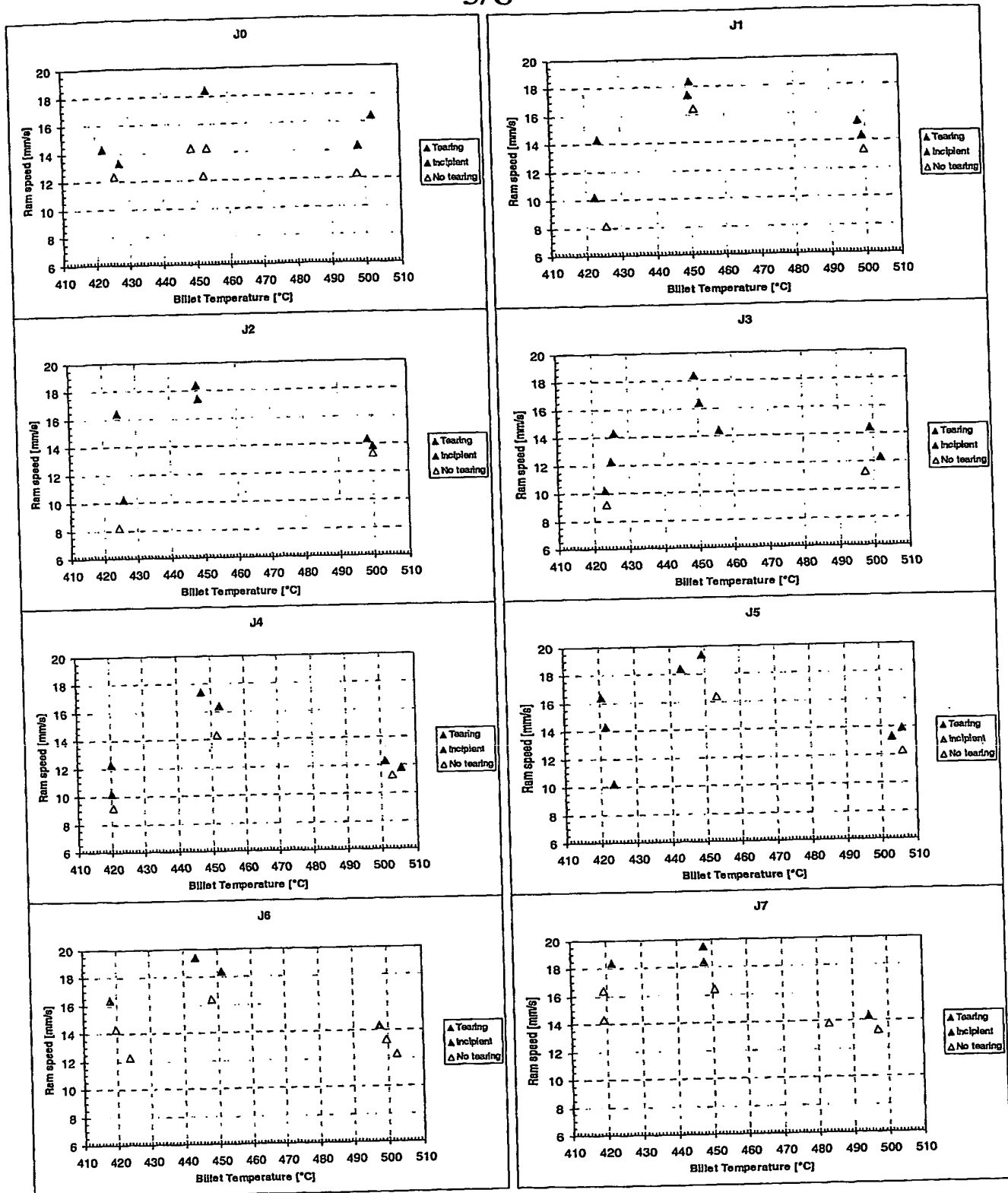


Figure 3: Extrusion ram speed versus billet temperature for eight alloys with equal Mg, Si and Fe contents and different Mn contents. Dark triangles represent profiles with tearing and open triangles represent good profiles.

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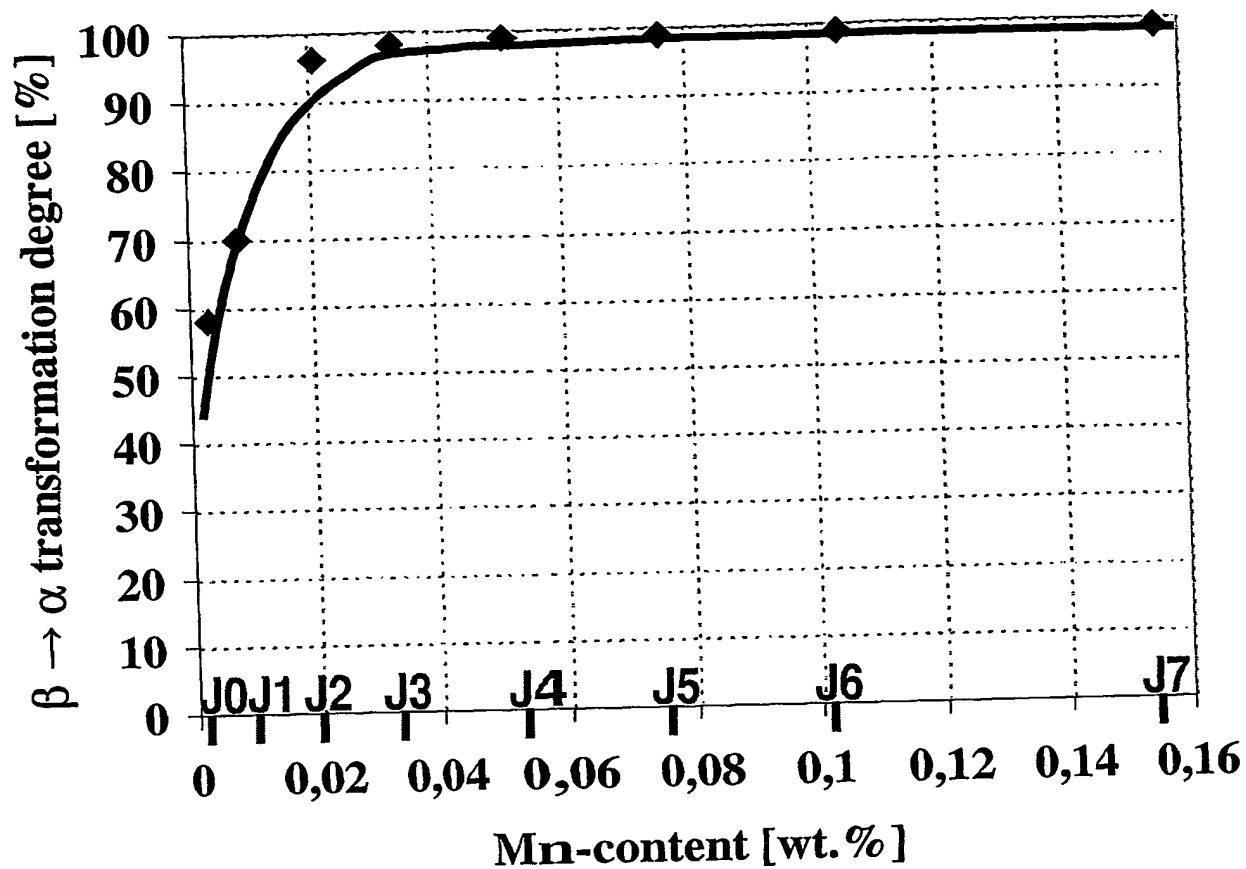


Figure 4: Degree of transformation of β -AlFeSi to α -AlFeSi in alloy variants J0..J7.

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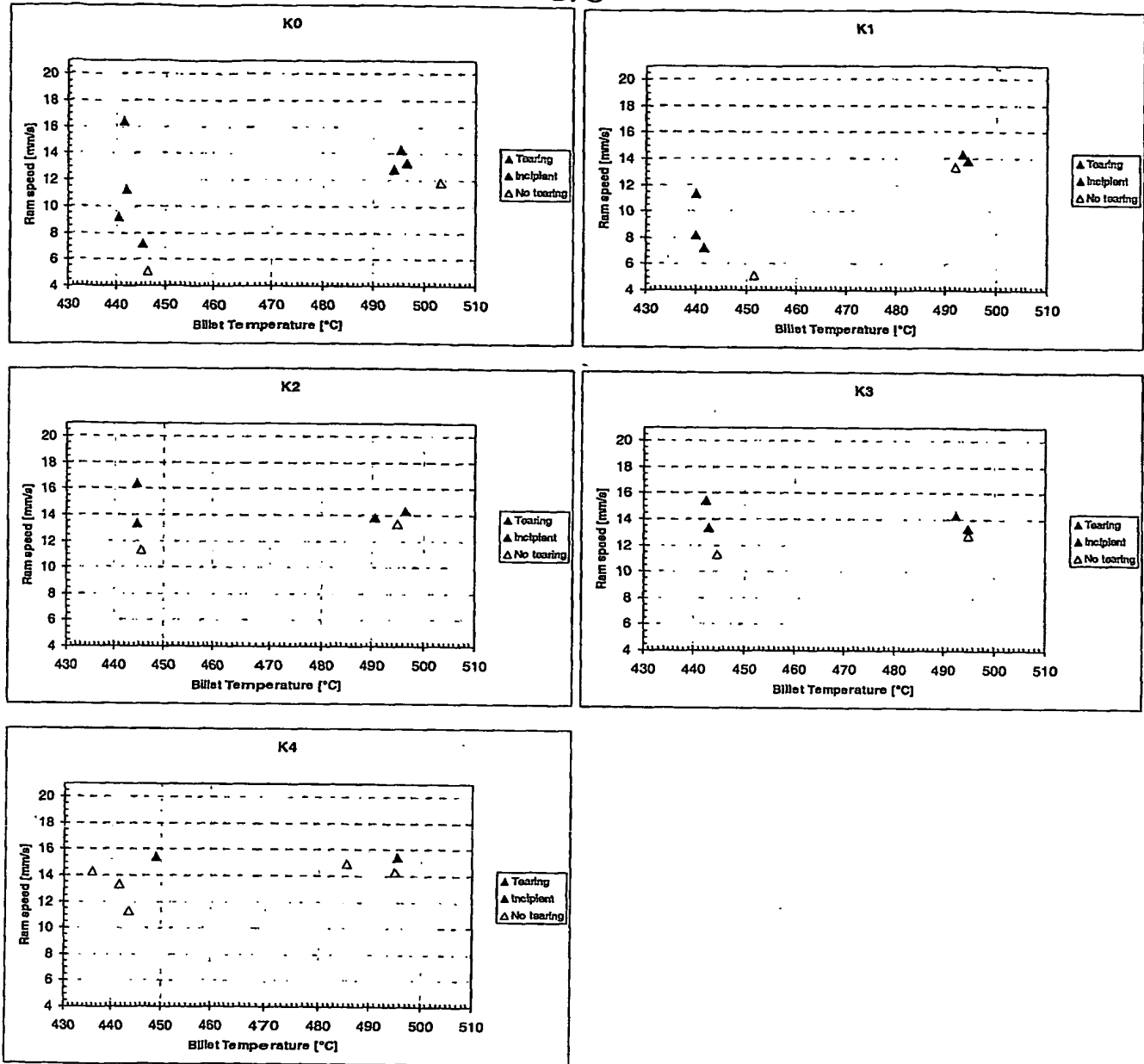


Figure 5: Extrusion ram speed versus billet temperature for five alloys with equal Mg, Si and Fe contents and different Mn contents. Dark triangles represent profiles with tearing and open triangles represent good profiles.

5

10

15

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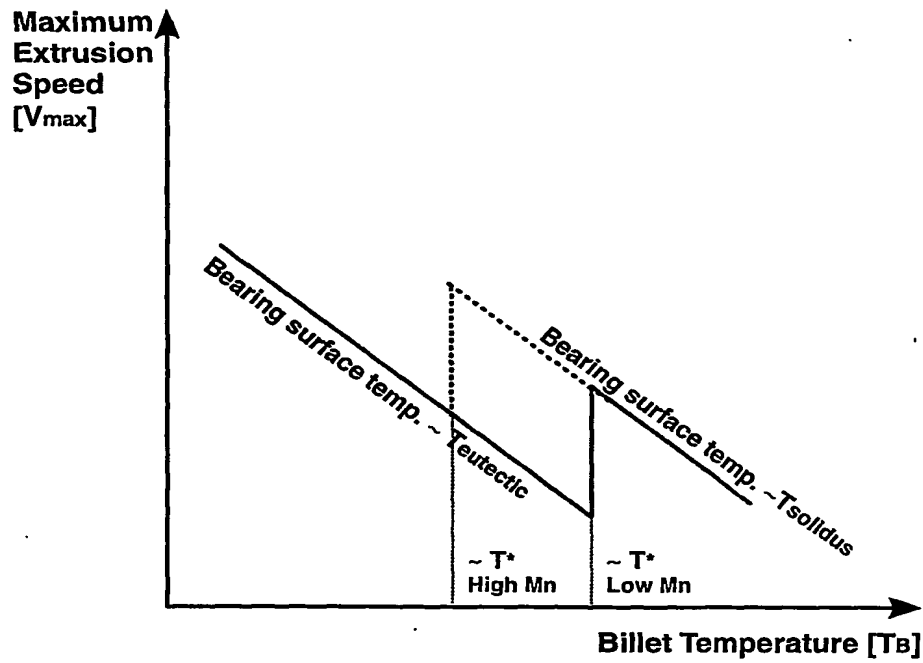


Figure 6. Schematic diagram of max. extrusion speed as a function of billet temperature and tearing mechanism. Billet temperature for the transition of mechanism, T^* , is indicated for a low and a high Mn-level

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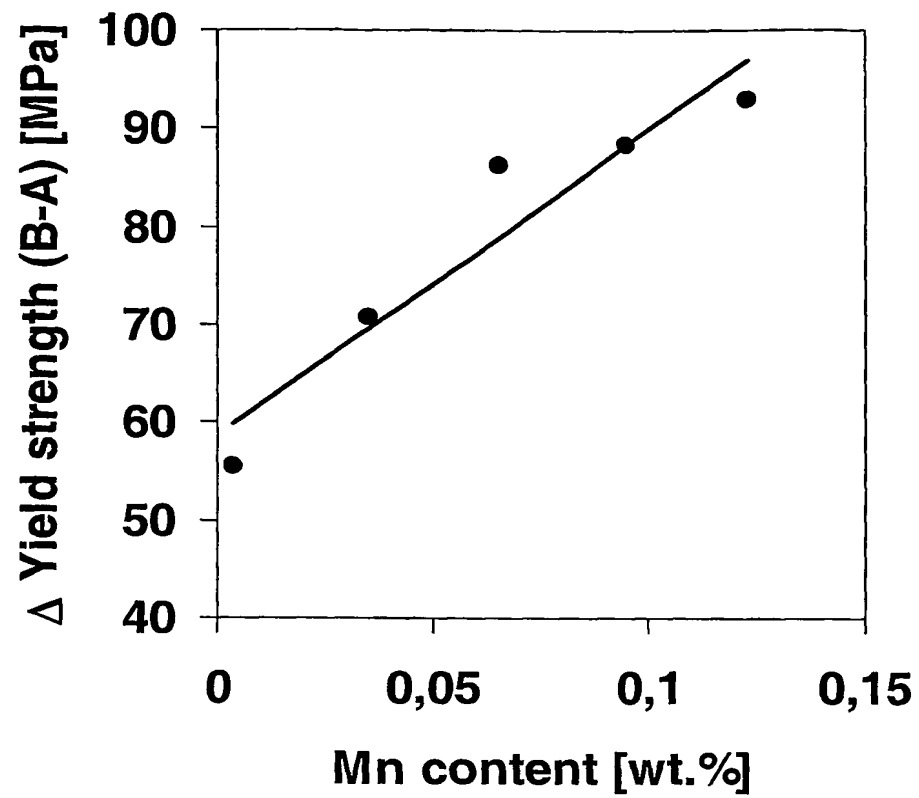
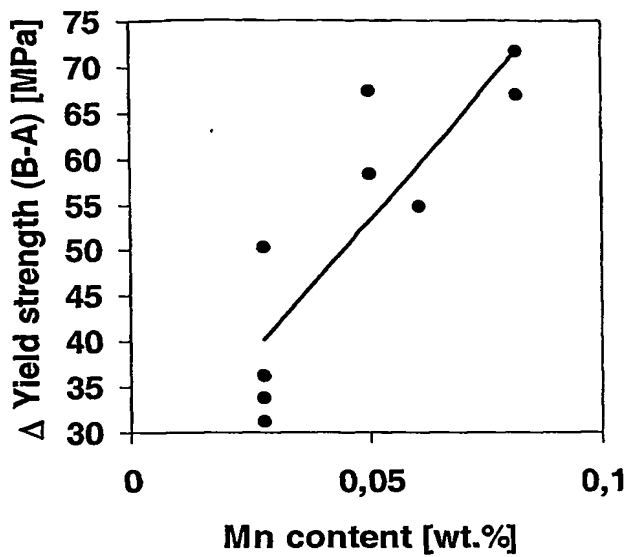
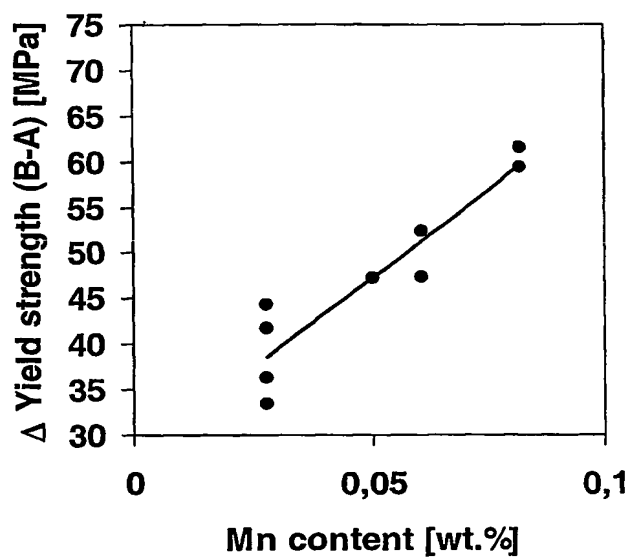


Figure 7. Quench sensitivity of five alloys with equal Mg, Si and Fe contents and different Mn contents in terms of decrease in yield strength. The decrease in yield strength is plotted as a function of Mn content.

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a)



b)

Figure 8. Quench sensitivity of open (a) and hollow (b) profiles of four alloys with equal Mg, Si and Fe contents and different Mn contents in terms of decrease in yield strength. The decrease in yield strength is plotted as a function of Mn content.